

Crystal ball questions on Comparing and contrasting properties of substances

All of the following questions have not (as yet!) appeared in the NCEA Level 2 Exams

QUESTION: Compare and Contrast the properties of the following substances

1)

Substance	melts in a bunsen flame (approx 700 °C)	dissolves in water	conducts electricity
A	✓	X	X
B	X	✓	only when aqueous
C	X	X	✓

2) Two different oxides, represented as PO_2 and QO_2 . One (PO_2) has a very low boiling point and is a gas at room temperature whereas the other (QO_2) has very high melting and boiling points and is a solid.

3) Fluorine, chlorine, bromine and iodine form ionic bonds with sodium eg NaF, NaCl, these ionic substances have a crystalline appearance. In an elemental form the halogens also form covalent bonds with themselves eg F_2 , Cl_2 , I_2 , these molecules can be in different states: gases, a liquid or solid.

4) Diamond and graphite are allotropes (different physical forms of the same element) of carbon. Diamond is one of the hardest substances known to man whereas graphite is very soft and is used as a lubricant.